Appendix C

Supporting Documentation for Site Changes



REGION IX 75 Hawthorne Street San Francisco, CA 94105-3901

MAY 0 2 2016

Ms. Karen Magliano Chief, Air Quality Planning and Science Division California Air Resources Board 1001 I Street, P.O. Box 2815 Sacramento, California 95812

Dear Ms. Magliano:

This letter provides the U.S. Environmental Protection Agency's (EPA's) review and approval for the California Air Resources Board's (CARB's) relocation of the ozone (O₃) State/Local Air Monitoring Station (SLAMS) monitor at the Arvin - Bear Mountain site (Air Quality System (AQS) Site ID: 06-029-5001) to the proposed Arvin - Di Giorgio site (AQS Site ID: 06-029-5002) in Kern County, California.

On April 29, 2016, CARB sent a letter to EPA with a description of this network change. In this letter, CARB explained the need to relocate the Arvin - Bear Mountain O_3 monitor due to logistics beyond the state's control (i.e., expiration of the property lease). Per 40 CFR 58.14, monitoring agencies are required to obtain EPA approval for the relocation of SLAMS monitors. EPA has reviewed CARB's relocation request for the Arvin - Bear Mountain site against criteria contained in 40 CFR 58.14(c)(6) and approves this request as described below.

Overview of Arvin – Bear Mountain Relocation History

In July 2009, the Arvin-Edison Water Storage District notified CARB that it was letting the lease that allowed CARB to operate the Arvin - Bear Mountain site on the Water District's property expire on August 31, 2009. The Water District directed CARB to remove its equipment from the site by that date, despite efforts by both CARB and San Joaquin Valley Air Pollution Control District (SJVAPCD) to negotiate with the Water District to keep the Arvin - Bear Mountain site in operation. CARB immediately initiated a search process for potential replacement site locations that were as nearby as practical considerations allowed, which is described in detail in their request letter, but generally included: selecting the criteria that would be used to evaluate an appropriate replacement site, identifying potential sites, conducting parallel monitoring, analyzing subsequent data, and preparing the site relocation package for submittal to EPA.

In August 2009, CARB began the search for potential sites to evaluate as a suitable relocation site. As part of CARB's search process, CARB reviewed adherence to EPA relocation criteria, generated meteorological and air quality statistics, and reviewed satellite image maps to characterize the Arvin - Bear Mountain site. Several other factors were considered such as the local topography and land uses, nearby traffic counts, lack of impact from local NO_x and other urban sources, and the predominant wind direction coinciding with high 1-hour O₃ concentrations using monitoring data from the most recent complete (May through October 2008) O₃ season. Logistics were also considered, including limiting the search to public property to ensure lease longevity, general site access, existing infrastructure, and adequate power supply. The initial search resulted in 31 possible replacement sites located within five miles of the Arvin - Bear Mountain site. CARB then refined the search with more specific search criteria.

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CARB's refined search concluded with two potential replacement sites that met all search criteria, both located on Di Giorgio Elementary School property.

The Di Giorgio Elementary School property at 19405 Buena Vista Blvd, Arvin, California 93203 was chosen as a potential replacement site because this location was the closest site in proximity to the Arvin - Bear Mountain site (approximately 2.2 miles northwest of the Arvin - Bear Mountain site) that met all search criteria, was minimally impacted by local NO_x sources, immediately available, and had electricity. Adjacent land uses are similar to those at the Arvin - Bear Mountain site, with vineyards to the west and north, orchards to the east and southwest, and light urban use to the southeast. Local topography is flat, with predominant wind direction and nearby traffic counts similar to the Arvin - Bear Mountain site.

Although the lease ended on August 31, 2009, SJVAPCD negotiated with the Water District to continue operation of the Arvin - Bear Mountain site through October 31, 2010. This additional time allowed CARB to conduct parallel monitoring with the potential Arvin - Di Giorgio replacement site, which began temporary operation on November 16, 2009. The Arvin - Bear Mountain and Arvin - Di Giorgio sites operated in parallel from November 16, 2009 through October 31, 2010, when the Arvin - Bear Mountain site was permanently shut down, allowing for almost a year of parallel O₃ monitoring at the two sites. As described in CARB's relocation request, O₃ concentrations between May and October were generally 6-7 ppb lower at the Arvin - Di Giorgio site compared to the Arvin - Bear Mountain site and showed a strong correlation between O₃ data at these two sites.

Prior to completion of CARB's relocation request, a potential site was identified on Tejon Ranch Conservancy property approximately 0.3 mi east of the Arvin - Bear Mountain site, which would have been closer than the Arvin - Di Giorgio site to the Arvin - Bear Mountain site. To ensure that the most suitable replacement site was selected, CARB requested access to the Tejon Ranch Conservancy land for a short-term study of O₃ concentrations and potential long-term monitoring site operation (see Attachment 1 in CARB's relocation request). Access to this location for purposes of establishing an air monitoring site was denied by the Tejon Ranch Conservancy Board (See Attachment 2 in CARB's relocation request).

Regulatory Requirements

According to certified data submitted to AQS, 8-hour and 1-hour daily maximum O₃ concentrations at the Arvin - Bear Mountain O₃ monitor were among the highest levels in the Bakersfield Metropolitan Statistical Area (MSA) at the time of its discontinuation on November 1, 2010 and the site was therefore considered to represent the maximum concentration site for the MSA. EPA regulations (40 CFR part 58) require, among other things, that at least one O₃ site for each MSA must be designated to record the maximum concentration for that area. The closure of the Arvin - Bear Mountain site without subsequent approval of a replacement site prevented the designation of a maximum concentration O₃ site for the Bakersfield MSA.

40 CFR 58.14(c)(6) describes the relocation requirements if a SLAMS monitor is not eligible for removal under the criteria in 40 CFR 58.14 (c)(1) through (c)(5) and states that, "[a] SLAMS monitor...may be moved to a nearby location with the same scale of representation if logistical problems beyond the State's control make it impossible to continue operation at its current site." As described above, the land uses and sources for O₃ near the Arvin - Di Giorgio site are similar to the Arvin - Bear Mountain site. Given the logistical constraints and factors considered by CARB, the Arvin - Di Giorgio site provides the most similar concentrations from similar sources to the original Arvin - Bear Mountain site, thus fulfilling the requirement that the replacement site is at a nearby location with the same scale of representation. Furthermore, relocation of this monitoring will not prevent SJVAPCD from meeting 40 CFR 58, Appendix D requirements, including that for a maximum concentration O₃ site in the Bakersfield MSA.

Conclusion

Based on the above assessment of O_3 concentrations, land use, and nearby sources, EPA approves CARB's relocation of the Arvin - Bear Mountain O_3 SLAMS monitor to the Arvin - Di Giorgio site. As this is a relocation, the data from the old and new sites will be combined to form one continuous data record for design value calculations. Please note this in the AQS comment field for both the old and new AQS sites. Please attach this approval letter and update the relevant monitor and site information in your next Ambient Air Quality Monitoring Network Plan.

If there are any questions regarding this letter, please feel free to contact me at (415) 947-4534 or Dena Vallano of my staff at 415-972-3134.

Sincerely,

Meredith Kurpius, Manager Air Quality Analysis Office

cc (via email): Ravi Ramalingam, CARB Gayle Sweigert, CARB Greg Gilani, CARB Seyed Sadredin, SJVAPCD Jon Klassen, SJVAPCD



Secretary for Environmental Protection

Air Resources Board

Mary D. Nichols, Chair

Edmund G. Brown Jr.

12/2/21-24

Matthew Rodriquez

1001 l Street • P.O. Box 2815 Sacramento, California 95812 • www.arb.ca.gov

December 7, 2015

Mr. Glen Stephens Eastern Kern Air Pollution Control District 2700 "M" Street, Suite 302 Bakersfield, CA 93301-2370

Dear Mr. Stephens:

This letter is to inform you that the Air Resources Board (ARB) has reviewed your District's proposal seeking approval to replace the Federal Reference Method (FRM) monitors with Federal Equivalent Method (FEM) monitors at the Ridgecrest air monitoring site. ARB is fully supportive of the proposal to install and operate Met One BAM 1020 air monitors for both PM2.5 and PM10. The proposed implementation was included in the 2015 Annual Network Plan and was approved in conjunction with the plan's approval.

ARB recommends parallel monitoring for one or two months for both parameters during the high particulate season to provide information on the comparability of FRM to FEM methods. If there is limited space to operate all four monitors, you may choose to conduct the parallel monitoring sequentially. Staff in ARB's Air Quality Planning and Science Division will be able to assist with the data comparison. ARB also recommends that the network changes be made at the start of a year or quarter to have a consistent data record, and that you contact the Quality Assurance Section to schedule a closing audit of the FRM monitors if the last audit was more than three months prior to closure.

If you have any questions about the process, please contact the ARB liaison for your District, Ms. Carissa Ganapathy at (916) 322-7105 or <u>carissa.ganapathy@arb.ca.gov</u>, or myself at (916) 322-0960 or <u>michael.miguel@arb.ca.gov</u>.

Sincerely,

Michael Miguel, Chief

Quality Management Branch

Monitoring and Laboratory Division

cc. See next page.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: http://www.arb.ca.gov.

California Environmental Protection Agency

Mr. Glen Stephens December 7, 2015 Page 2 of 2

cc. Gwen Yoshimura
U.S. EPA Region 9
Air Quality Analysis Office, Air Monitoring Team Lead
75 Hawthorne St., AIR-7
San Francisco, California 94105

Dr. Michael T. Benjamin, Chief Monitoring and Laboratory Division

Sylvia Vanderspek, Chief Air Quality Planning Branch

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Webster Tasat, Manager Central Valley Air Quality Planning Section

Carissa Ganapathy Monitoring and Laboratory Division



REGION IX

75 Hawthorne Street San Francisco, CA 94105-3901

NOV 23 2015

Mr. Yushuo Chang Planning and Monitoring Section Manager Placer County Air Pollution Control District 110 Maple Street Auburn, California 95603

Dear Mr. Chang:

In a letter dated September 25, 2015, Placer County Air Pollution Control District (Placer County APCD) requested the U.S. Environmental Protection Agency's (EPA's) approval for the closure of the two State or Local Air Monitoring Station (SLAMS) PM₁₀ monitors operating at Auburn-Dewitt (Auburn, AQS ID: 06-061-0002) and Colfax-City Hall (Colfax, AQS ID: 06-061-0004). In California Air Resources Board's (ARB's) 2015 Annual Monitoring Network Plan, it stated, "ARB is currently working with the U.S. EPA and the Placer County APCD on the closure of the PM₁₀ monitors at Auburn and Colfax." The plan was made available for public inspection prior to its submittal to EPA in July 2015 and no public comments were received on this proposed monitoring network change.

Per 40 CFR 58.14, monitoring agencies are required to obtain EPA approval for the discontinuation of SLAMS monitors. Under 40 CFR 58.14(c), requests for site closures may be approved on a case-by-case basis as long as the discontinuance does not compromise data collection for the NAAQS and the requirements of 40 CFR 58 Appendix D continue to be met.

PM₁₀ monitoring in Placer County is not specifically required by an attainment or maintenance plan. The Sacramento-Arden Arcade-Roseville core-based statistical area (CBSA) includes Placer County, and requires 6-10 PM₁₀ monitors per 40 CFR 58 Appendix D requirements. According to ARB's 2015 annual monitoring network plan, there are currently ten PM₁₀ sites operating within the CBSA. Should Auburn and Colfax cease operating, the CBSA will continue to meet the minimum required SLAMS sites as described in 40 CFR part 58, Appendix D. Also, PM₁₀ monitoring within Placer County will continue at Roseville-Sunrise (AQS ID: 06-061-0006), an ARB-run site that measures concentrations similar to those measured at Auburn and Colfax. SLAMS continuous PM_{2.5} monitoring will continue at Auburn, while a non-FEM BAM is planned to continue running at Colfax.

EPA recognizes that ARB found deficiencies with Placer County APCD's laboratory, where the filters from the Auburn and Colfax monitors are analyzed. While the data from the Placer County laboratory were invalidated due to ARB's audit findings, the analysis presented in the closure request show that the data collected at Auburn generally tracked closely with the Colfax data. Filters from the Roseville monitor are analyzed by ARB's lab, and the data from this monitor

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show similar concentrations to the Auburn and Colfax monitors. Although these data were appropriately invalidated, EPA believes the concentrations are indicative of what the air quality was at Auburn and Colfax.

 PM_{10} monitoring at Auburn and Colfax occurred from the late 1980s to the late 1990s, and was restarted at these sites starting January 1, 2012. There is therefore only a limited dataset of recent information to consider. From 2012-2014, these monitors recorded an exceedance of the 150 $\mu g/m^3$ PM_{10} National Ambient Air Quality Standards (NAAQS) once, on September 20, 2014. On September 20, 2014, the PM_{10} monitor at Auburn measured 125 $\mu g/m^3$, while Colfax measured 287 $\mu g/m^3$. Both dates were flagged in EPA's Air Quality System (AQS) database with an "rt – Wildfire (US), Request Exclusion" flag. By September 20, 2014, the King Fire had burned almost 82,000 acres and had spread from El Dorado County into Placer County. Before it was extinguished the King Fire destroyed 12 single residences and 68 other minor structures, and burned 97,717 acres

(http://cdfdata.fire.ca.gov/incidents/incidents_details_info?incident_id=1059). PM_{10} and $PM_{2.5}$ monitors in El Dorado County measured elevated concentrations on September 20^{th} , as did the $PM_{2.5}$ monitor at Auburn. As Placer County AQMD's submission indicates, the Placer County PM_{10} AQI for September 20^{th} was "Red – Unhealthy," and "Green – Good" all other days in 2014. The next highest PM_{10} concentration from 2012-2014 at Auburn was $79.5~\mu g/m^3$ and at Colfax was $57.5~\mu g/m^3$, indicating that besides the aforementioned wildfire-influenced days, PM_{10} concentrations were generally well below the NAAQS.

Based on this and other information presented in Placer County APCD's September 25, 2015 closure request, EPA grants a case-by-case approval per 58.14(c) for the closure of the SLAMS PM_{10} monitors at Auburn and Colfax. Please include the request and EPA's approval in the next ARB annual network plan. If you have any questions, please contact me at (415) 947-4534 or Gwen Yoshimura at (415) 947-4134.

Sincerely,

Meredith Kurpius

Manager, Air Quality Analysis Office

cc (via email): Rebekka Fine, ARB
Patrick Rainey, ARB
Webster Tasat, ARB
Michael Werst, ARB
Kenneth Stroud, ARB
Michael Miguel, ARB



REGION IX

75 Hawthorne Street San Francisco, CA 94105-3901

NOV 23 2015

Mr. Richard W. Simon Air Pollution Control Officer Shasta County Air Quality Management District 1855 Placer Street Redding, California 96001

Dear Mr. Simon:

This letter provides the U.S. Environmental Protection Agency's (EPA's) review and approval for the Shasta Air Quality Management District's (Shasta AQMD's) request on February 20, 2015 for discontinuation of the PM_{2.5} State/Local Air Monitoring Station (SLAMS) monitors at the Redding-Buckeye and Redding-Toyon sites (AQS ID: 06-089-3004 and 06-089-3005, respectively).

Per 40 CFR 58.14, monitoring agencies are required to obtain EPA approval for the discontinuation of SLAMS monitors. Under 40 CFR 58.14(c), requests for site closures may be approved on a case-by-case basis as long as the discontinuance does not compromise data collection for the National Ambient Air Quality Standards (NAAQS) and the requirements of 40 CFR 58 Appendix D continue to be met.

EPA reviewed the most recent five years of PM_{2.5} design values, 2010-2014, at Buckeye and Toyon. According to data submitted to EPA's Air Quality System (AQS), both the Buckeye and Toyon monitors have violating 2010 24-hour design values. Both have invalid 2010 annual design values, Buckeye's invalid 2010 annual design value being 13.7 μ g/m³ and Toyon's being 6.6 μ g/m³. The violating 2010 24-hour design values, as well as Buckeye's high invalid 2010 annual design value, are due to exceedances of the standard in the summer of 2008, which was a severe wildfire year in California. The exceedance days in 2008 were not flagged in AQS and were not included in an exceptional event submittal due to their late upload into the data system. However, EPA concurred on PM_{2.5} wildfire exceptional events at the Redding-Health Department site, which is approximately 8 kilometers (km) south of Buckeye and 16 km south of Toyon, for five days in 2008: June 23, June 29, July 5, July 17, and July 23¹. These five days include every day that the Buckeye and Toyon monitors measured values over 35 μ g/m³. Given the geographic proximity and lack of topographical barriers between the three monitors, it is reasonable to conclude that the high concentrations at Buckeye and Toyon were affected by wildfires. With the removal of wildfire-influenced days, data in 2008 are generally low.

From 2009-2014, $PM_{2.5}$ concentrations have been consistently low at Buckeye and Toyon. In 2011 and 2012, both the 24-hour and annual $PM_{2.5}$ NAAQS design values at Buckeye and Toyon were around half the NAAQS. Values continued to be low in 2013 and 2014, however, Toyon's design values for these years are invalid due to incomplete data. One quarter of data was incomplete in 2012 and one quarter of data was incomplete in 2013.

Shasta AQMD has no metropolitan statistical areas (MSAs) and is not required to monitor for PM_{2.5} per 40 CFR 58 Appendix D Section 4.7.1. Shasta AQMD also operates a PM_{2.5} monitor at the Redding-Health Department station. The Buckeye and Toyon monitors are not specifically required by an

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¹ http://www.arb.ca.gov/desig/excevents/2008wildfires.htm

attainment or maintenance plan and are not the only SLAMS monitors of their kind operating in a nonattainment or maintenance area.

Given the historical PM_{2.5} concentrations measured at the Buckeye and Toyon sites, that the PM_{2.5} monitors are not relied upon for continuing demonstration of attainment, and that requirements of 40 CFR 58, Appendix D will continue to be met, we are approving the discontinuation of the Buckeye and Toyon PM_{2.5} SLAMS monitors per 40 CFR 58.14(c). Please include this network modification and EPA's approval in the next California Air Resources Board's (ARB) annual network plan. If you have any questions, please contact me at (415) 947-4534 or Gwen Yoshimura at (415) 947-4134.

Sincerely,

Meredith Kurpius

Manager, Air Quality Analysis Office

cc (via email): Ross Bell, Shasta AQMD

Rebekka Fine, ARB Darsi Goto, ARB Michael Werst, ARB Kenneth Stroud, ARB Michael Miguel, ARB



REGION IX

75 Hawthorne Street San Francisco, CA 94105-3901

NOV 2 3 2015

Mr. Patrick J. Griffin Air Pollution Control Officer Siskiyou County Air Pollution Control District 525 South Foothill Drive Yreka, California 96097-3090

Dear Mr. Griffin:

This letter provides the U.S. Environmental Protection Agency's (EPA's) approval for the discontinuation of SLAMS (State or Local Air Monitoring Station) PM_{10} monitoring at Siskiyou County Air Pollution Control District's (Siskiyou County APCD's) Yreka site (AQS ID: 06-093-2001), as requested in Siskiyou County APCD's October 20, 2015 correspondence. This discontinuation was also included in California Air Resources Board's (ARB's) Annual Monitoring Network Plan submitted to EPA on July 13, 2015. The plan was made available for public inspection prior to its submittal to EPA and no public comments were received on this proposed monitoring network change.

Per 40 CFR 58.14, monitoring agencies are required to obtain EPA approval for the discontinuation of SLAMS monitors. Under 40 CFR 58.14(c), requests for site closures may be approved on a case-by-case basis as long as the discontinuance does not compromise data collection for the NAAQS and the requirements of 40 CFR 58 Appendix D continue to be met.

PM₁₀ monitoring at Yreka is not specifically required by an attainment or maintenance plan. Siskiyou County will continue to meet the minimum required SLAMS sites as described in 40 CFR part 58, Appendix D after the Yreka PM₁₀ monitor is shut down. PM_{2.5} monitoring will continue at the site.

Siskiyou County APCD's statistical analysis for PM_{10} demonstrates, using the annual maximum 24-hour concentrations from 2010-2014, that there is a less than 10 percent probability of exceeding 80 percent of the PM_{10} National Ambient Air Quality Standard (NAAQS) at this site during the next three years. The 90 percent confidence interval (CI) associated with a 10 percent probability of exceeding 80 percent of any PM_{10} NAAQS is 120.0 $\mu g/m^3$, and the 2010-2014 time period for annual maximum concentrations has a CI of 75.4 $\mu g/m^3$.

However, when the statistical test is run for 2010-2014 using PM_{10} design concentrations, data from year 2008 is included when calculating the 2010 design concentration. On July 31, 2008, the Yreka monitor measured a concentration of 176 $\mu g/m^3$. This value is more than 180% higher than the next-highest 24-hour PM_{10} value over the past seven years (2008-2014). If this single data point is removed from the dataset, as was done in the October 20, 2015 submittal, the design concentration statistic also demonstrates that there is a less than 10 percent probability of exceeding 80 percent of the PM_{10} National Ambient Air Quality Standard (NAAQS).

In the summer of 2008 dry conditions, large amounts of unburned material, and lightning storms resulted in a series of wildfires across central and northern California. On August 28, 2009, ARB submitted an exceptional events demonstration package requesting exclusion of a number of data points affected by the

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wildfires. The Yreka PM₁₀ data point from July 31, 2008, was included in ARB's submission and flagged in EPA's Air Quality System (AQS) database.

In March and April 2010, EPA concurred on a subset of the flagged summer 2008 exceptional event data. Data points that impacted a regulatory decision (such as attainment/nonattainment of a NAAQS) were concurred on. As the Yreka PM_{10} data point did not affect a regulatory decision, it was not acted upon. ARB's submittal included information such as the NOAA descriptive text narrative for smoke/dust observed in satellite imagery for July 31, 2008, which states: "The combination of fires in northern California…have resulted in: Heavy dense smoke stretching from northern California into southern Oregon…" ARB declared a no-burn day in the Northeast Plateau Air Basin (consisting of Siskiyou, Modoc, and Lassen counties) on July 30th and 31st, 2008. The Yreka PM_{10} monitor only measured one other value over 110 μ g/m³ during summers 2000-2008. It was measured on July 17, 2007 and is also flagged in AQS as an exceptional event related to the Moonlight Fire. Excluding these two concentration, the highest PM_{10} 24-hour value measured at Yreka from 2000 to present was 97 μ g/m³.

Based on the information presented in the information in Siskiyou County APCD's October 20, 2015 closure request, and ARB's Summer 2008 Wildfires exceptional events submittal package, EPA grants a case-by-case approval per 58.14(c) for the closure of the Yreka PM_{10} monitor. Please include the request and EPA's approval in the next ARB annual network plan. If you have any questions, please contact me at (415) 947-4534 or Gwen Yoshimura at (415) 947-4134.

Sincerely,

Meredith Kurpius

Manager, Air Quality Analysis Office

cc (via email): Rebekka Fine, ARB

Darsi Goto, ARB Michael Werst, ARB Kenneth Stroud, ARB Michael Miguel, ARB



County of Tehama Air Pollution Control District

P.O. Box 1169 • Red Bluff, California 96080

Kristin Hall-Stein Phone: (530) 527-3717 khall@tehcoapcd.net

Air Pollution Control Officer Fax: (530)527-0959

E-mail:

May 20, 2016

Ms. Gayle Sweigert California Air Resources Board 1001 I Street Sacramento, California 95812

Dear Ms. Sweigert:

On March 1, 2016 at the Tehama County Air Pollution Control District (District) replaced its special purpose monitor (SPM) Metone PM_{2.5} Beta Attenuation Monitor (BAM) 1020 serial number Y4367 with a Metone Federal Equivalent Method (FEM) BAM 1020 serial number 21227.

The method code will be changed from 88502 to 88101.

Pollutant	Site ID	Site Address	Reason
PM _{2.5}	061030007	1834 Walnut St Red Bluff, CA 96080	Replaced SPM Metone BAM 1020 method code 88502 with FEM Metone BAM 1020 method code 88101.

Sincerely,

Joseph H. Tona

Air Pollution Control Specialist III

cc:

Kristin Hall-Stein

Air Pollution Control Officer